

# ***Memorandum of Understanding Sole Source Aquifer***

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**MEMORANDUM OF UNDERSTANDING  
between  
THE FEDERAL HIGHWAY ADMINISTRATION  
REGION 10, PORTLAND, OREGON  
and  
THE ENVIRONMENTAL PROTECTION AGENCY  
REGION 10, SEATTLE, WASHINGTON  
and  
WASHINGTON STATE DEPARTMENT OF TRANSPORTATION  
OLYMPIA, WASHINGTON**

**Sole Source Aquifer  
State of Washington**

## **I. INTRODUCTION**

The purpose of this memorandum is to develop an understanding between the Environmental Protection Agency (EPA), the Federal Highway Administration (FHWA), and the Washington State Department of Transportation (WSDOT) concerning the review of projects on Federal-aid highways which may affect water quality of the designated sole source aquifer listed on Attachment A, hereinafter referred to as the Aquifers. The agreement area is the collective designated "sole source area" encompassing these Aquifers. This memorandum outlines basic criteria against which projects will be evaluated and the procedures to be followed by FHWA and EPA in conducting project evaluation and formal review within the State of Washington.

## **II. GOAL AND DEFINITIONS**

The goal of this memorandum is to assure that each highway project that is to receive FHWA financial assistance is designed and constructed in a manner that will prevent the introduction of contaminants into a "sole source" Aquifer in quantities that may create a significant hazard to public health. A "significant hazard to public health" will be deemed to occur if the level of contaminants in an Aquifer would:

1. exceed National Primary Drinking Water Standards, or
2. exceed public health advisory levels for currently unregulated contaminants, or
3. violate the intent of Executive Order 12088, "Federal Compliance With Pollution Control Standards," or
4. otherwise threaten public health.

In determining whether a level of contaminant would threaten public health, the following factors, at a minimum, shall be considered:

1. the toxicity and transportation/transformation of the contaminants involved;
  2. the volume of contaminants which may enter the Aquifer; and
  3. aquifer characteristics, i.e., geochemical, hydrological, geological, etc., and attenuation capability of the Aquifer.
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### **III. CRITERIA AND PROCEDURES**

EPA, FHWA, and WSDOT hereby mutually agree that all Federal-aid highway projects within the designated sole source Aquifers listed in Attachment A will be constructed so as not to cause to be exceeded the maximum contaminant levels promulgated by the Washington State Department of Social and Health Services in WAC 248-54-175.

EPA will be provided an early opportunity to participate in the development and review of all environmental documents for projects listed in Attachment C, which are within the Aquifer(s) listed in Attachment A.

EPA agrees that all environmental documentation submitted by WSDOT to FHWA and EPA for evaluation or review purposes shall be responded to within thirty (30) calendar days of receipt unless:

1. There are comments (with substantiating data) arising from the Intergovernmental Project (IP) review indicating adverse impacts on the Aquifer. WSDOT, through FHWA, will immediately send these comments to EPA who will notify FHWA and WSDOT within thirty (30) days of receipt of the comments regarding EPA's decision.<sup>1</sup>
2. EPA receives a citizen's petition at any time during the IP review or at any time before FHWA has approved the project's final environmental document. EPA will immediately notify FHWA and WSDOT (in writing, if time permits or by telephone if the end of the comment period is near). EPA will reevaluate the project, and will notify FHWA and WSDOT within thirty (30) days of receiving such petition information of EPA's decision.<sup>1</sup>
3. EPA requests either by telephone or in writing for additional review time. If EPA requests additional time, EPA will inform FHWA and WSDOT within thirty (30) additional days of the results of this evaluation.

### **IV. GENERAL INFORMATION**

Materials furnished EPA by WSDOT, with a copy of FHWA, under this Memorandum of Understanding will be addressed to the attention of the Office of Ground Water in EPA's Region 10 Office in Seattle. Project review comments or findings by EPA will be addressed to the Washington FHWA Division Office and WSDOT Environmental Unit Manager.

FHWA, WSDOT, and EPA will assign a liaison officer to serve as a central contact point to be responsible for maintaining communications as to procedures and activities of their respective Agency. The liaison officers are:

FHWA:           Regional Environmental Program Manager  
FHWA Region 10 Office  
708 Southwest Third Avenue  
Portland, Oregon 97204  
(503) 221-2061 or FTS 423-2061

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<sup>1</sup> However, the EPA Regional Administrator reserves the right to extend this time period where he finds that additional information is needed, that additional administrative review is necessary, or that it will be in the public interest to hold a public hearing. EPA will notify FHWA of any extension of the review time period.

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Division Administrator  
FHWA Washington Division  
Suite 501, Evergreen Plaza  
711 South Capitol Way  
Olympia, Washington 98501  
(206) 753-9480 or FTS 434-9413

WSDOT: Environmental Unit Manager  
Washington State Department of Transportation  
Transportation Building  
Olympia, Washington 98504-5201  
(206) 753-0355

EPA: Chief, Office of Ground Water  
U.S. Environmental Protection Agency  
1200 Sixth Avenue, Mail Stop 409  
Seattle, Washington 98101  
(206) 442-1216 or FTS 399-1216

The liaison officers accompanied by appropriate staff will hold meetings as needed to discuss matters of concern related to the Aquifers and this Memorandum of Understanding.

This Memorandum of Understanding is subject to revision upon agreement of all following agencies.

Washington State  
Department of Transportation

Federal Highway Administration  
Washington Division Administrator

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Signed: Robert C. Schuster  
Assistant Secretary for Highways

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Signed: Paul C. Gregson  
Division Administrator

Date 6-22-88

Date: 6-28-88

Federal Highway Administration

Environmental Protection Agency

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Signed: M. Eldon Green  
Regional Administrator

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Signed: Robie G. Russell  
Regional Administrator

Date: 8-1-88

Date: 8-16-88

## ATTACHMENT A

Pursuant to the Safe Drinking Water Act (42 USC 300-h-3e), EPA has determined that the aquifers listed below are the sole or principal drinking water source for their respective designated areas. As such, no commitment for federal financial assistance may be entered into within the boundaries of these designated areas for any project which EPA determines may contaminate any of these aquifers through their recharge zones (watershed map shown for each aquifer) so as to create a significant hazard to public health or the environment.

Aquifer Name	Location	Federal Register Notice	Date
Spokane Valley Rathdrum Prairie	Spokane County, WA	Vol. 43, No. 28 5566 <i>et. seg.</i>	2/9/78
Whidbey Island	Island County, WA	Vol. 47, No. 66 14779 <i>et. Seg.</i>	4/6/82
Camano Island	Island County, WA	Vol. 47, No. 66 14779 <i>et. Seg.</i>	4/6/82
Cross Valley	Snohomish County, WA King County, WA	Vol. 52, No. 95 18606 <i>et. Seg.</i>	5/18/87
Newberg Area	Snohomish, County, WA	Vol. 52, No. 192 37215 <i>et. Seg.</i>	10/5/82
Cedar Valley	City of Renton King County, WA	Vol. 53, No. 191 38779 <i>et. Seg.</i>	10/3/88
Lewiston Basin	Asotin and Garfield Counties, WA	Vol. 53, No. 191 38782 <i>et. Seg.</i>	10/3/88

[Note – error “*et seg.*” for “*et seq.*” is in original]

ATTA: D3: PD3

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## **ATTACHMENT B**

Projects that need not be referred to EPA:

Resurfacing; lighting; signing; pavement marking; guardrail; signalization; freeway surveillance and control system; railroad protective devices; glare screening; median barriers; energy attenuators; and the temporary replacement of highway facilities damaged by natural disasters or catastrophic failures.

## ATTACHMENT C

Projects listed below should be submitted to EPA for evaluation and comment:

1. All projects within the designated aquifer documented by an Environmental Assessment or Environmental Impact Statement.
  2. All categorical excluded projects that include:
    - a. Addition of drainage wells, detention or retention basins or new wetland areas.
    - b. Addition or widening of lanes or opening of new material sources which could result in a potential contamination.
    - c. Rest areas, weigh stations or scenic overlooks with sewage disposal stations.
    - d. Landscape construction projects if pesticides, herbicides, and fertilizers use any of the compounds listed or exceed the list on Attachment D.
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## ATTACHMENT D — August 1987

National Primary Drinking Water Regulations <sup>1</sup> (40 CFR Part 141)			National Secondary Drinking Water Regulations <sup>2</sup> (40 CFR Part 143)	
Inorganics	Arsenic	0.05 mg/l	Chloride	250 mg/l
	Barium	1.0 mg/l	Color	15 color units
	Cadmium	0.010 mg/l	Copper	1 mg/l
	Chromium	0.05 mg/l	Corrosivity	Non-corrosive
	Lead	0.05 mg/l	Foaming Agents	0.5 mg/l
	Mercury	0.002 mg/l	Iron	0.3 mg/l
	Nitrate (as N)	10 mg/l	Manganese	0.05 mg/l
	Selenium	0.01 mg/l	Odor	3 threshold odor number
	Silver	0.05 mg/l	pH	6.5 – 8.5
	Fluoride	4 mg/l	Sulfate	250 mg/l
			Total Dissolved Solids	500 mg/l
Pesticides	Endrin	0.0002 mg/l	Zinc	5 mg/l
	Lindane	0.004 mg/l	Fluoride	2 mg/l
	Methoxychlor	0.1 mg/l		
	Toxaphene	0.005 mg/l		
	2,4 – D	0.1 mg/l		
	2,4,5 – TP Silvex	0.01 mg/l		
Microbiological	Coliform bacteria	1/100 ml <sup>b</sup>		
Physical/Microbiological	Turbidity	1 NTU <sup>c</sup>		
Radiological	Radium – Ra <sub>226</sub> + Ra <sub>228</sub>	5 pCi/l		
	Gross alpha particle activity	15 pCi/l		
	Beta particle and photon radioactivity	4 mrem (annual dose equivalent)		
Volatile Organics	Total Trihalomethanes	0.10 mg/l		
	Trichloroethylene	.005 mg/l		
	Carbon Tetrachloride	.005 mg/l		
	1,2 Dichloroethane	.005 mg/l		
	Vinyl Chloride	.002 mg/l		
	Benzene	.005 mg/l		
	Para – Dichlorobenzene	.075 mg/l		
	1,1 – Dichloroethylene	.007 mg/l		
	1,1,1 Trichloroethane	0.2 mg/l		

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<sup>2</sup> Regulated for health concerns.

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<sup>1</sup> Regulated for health concerns. \*As a monthly average; individual samples may be higher. \*\*Up to 5 NTU in some circumstances.

**Pesticides Included in the EPA National Pesticide Survey  
April 14, 1988**

Acifluorfen *	3,5-Dichlorobenzoic acid	Methoxychlor *
Alachlor *	1,2-Dichloropropane	Metribuzin *
Aldicarb *	cis-1,3-Dichloropropene *	Metribuzin DA
Aldicarb *	trans-1, 3-Dichloropropene *	Metribuzin DADK
Aldicarb sulfone *	Dichlorprop	Metribuzin DK
Aldicarb sulfoxide *	Dichlorvos	Mevinphos
Aldrin	Dieldrin *	MGK 264
Ametryn *	Dinoseb *	Molinate
Altraton	Diphenamid *	Napropamide
Atrazine *	Disulfoton *	Neburon
Atrazine, dealkylated metabolite	Disulfoton sulfone	Nitrates/Nitrites *
Barban	Disulfoton sulfoxide	4-Nitrophenol
Baygon *	Diuron	Norflurazon
Bentazon *	EDB *	Oxamyl *
Bromacil *	Endosulfan I	PCP
Butachlor	Endosulfan II	Pebulate
Butylate *	Endosulfan sulfate	cis-Permethrin
Carbaryl *	Endrin *	trans-Permethrin
Carbofuran *	Endrin aldehyde	Pichloram *
Carbofuran phenol	EPTC	Prometon *
Carbonfuran pheno – 3KET	Ethoprop	Prometryn
Carbofuran – 3OH	Etridiazole	Pronamide *
Carboxin *	ETU *	Pronamide metabolite, RH 24,580 *
Chlordane-alpha *	Fenamiphos *	Propachlor *
Chlordane-gamma	Fenamiphos sulfone	Propanil
Chlorneb	Fenamiphos sulfoxide	Propazine *
Chlorobenzilate	Fanarimol	Propham *
Chlorothalonil *	Fluometuron	Simazine *
Chlorpropham	Fluridone	Simetryn
Chanazine *	HCH-alpha	Stirofos
Cycloate	HCH-beta	Swep
2,4-D *	HCH-delta	2,4,5-T *
DBCP *	HCH-gamma	2,4,5-TP *
DCPA	Heptachlor *	Tebuthiuron *
DCPA diacid metabolite	Heptachlor epoxide *	Terbacil *
4,4' – DDD	Hexachlorobenzene *	Terbufos *
4,4' – DDE	Hexazinone *	Terbutryn
4,4' – DDT	5-Hydroxy Dicamba	Triademefon
Demeton-S	Linuron	Tricyclazole
Diazinon *	Merphos	Trifluralin *
Dicamba *	Methiocarb	Vernolate
	Methomyl *	

\* Priority pesticides which have a high potential for leaching into groundwater. This list is current as of April 14, 1988, but the list of priority pesticides could change. For information on Health Advisories, contact the Safe Drinking Water Hotline 800-426-4791, toll-free Monday through Friday, 8:30 a.m. to 4:30 p.m., E.S.T. (In Washington D.C., call 382-5533).